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MISCELLANEOUS PUBLICATION NO. 300
WASHINGTON, D. C.
ISSUED JANUARY 1938
REVISED JUNE 1948

THE NATIONAL POULTRY IMPROVEMENT PLAN

COOPERATING IN
The NATIONAL POULTRY IMPROVEMENT PLAN
ADMINISTERED BY OFFICIAL STATE AGENCIES AND U.S. DEPARTMENT OF AGRICULTURE

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Emblem authorized for use by official State agencies and industry members to signify cooperation in the National Poultry Improvement Plan
REGISTERED U. S. PATENT OFFICE

UNITED STATES DEPARTMENT OF AGRICULTURE

The National Poultry Improvement Plan became operative July 1, 1935, with the approval of the Secretary of Agriculture and under the authority of an appropriation made by Congress (Public, No. 62, 74th Cong., H. R. 6718) for the Bureau of Animal Industry, United States Department of Agriculture, to be used in cooperation with State authorities in the administration of regulations for the improvement of poultry, poultry products, and hatcheries. Authority for the administration of the plan is now contained in the Department of Agriculture Organic Act of 1944. (78th Cong., 2d sess., H. R. 4278, Public 425.)

Developed with a view to the establishment of the poultry-breeding industry on as sound a basis as possible, the plan affords protection from unscrupulous competition and enables purchasers to buy with more confidence. The adoption of the plan in all parts of the United States should bring about an improvement in the quality of hatching eggs, baby chicks, breeding stock, and market products. Such results should cause poultry production to be more efficient and thus aid in making the poultry enterprise more profitable.

The objectives of the National Poultry Improvement Plan are to improve the breeding and production qualities of poultry and to reduce losses from pullorum disease. This is being accomplished by: (1) The development of more effective State poultry-improvement programs; (2) the identification of the quality of breeding stock, hatching eggs, and chicks by authorized terms that are uniform and applicable in all parts of the country; and (3) the establishment of an effective cooperative program through which newer knowledge and practical experience can be applied to the improvement of poultry and poultry products.

Acceptance of the plan is optional with States and individual members of the industry within the States. The plan is administered in each State by an official State agency cooperating with the Bureau of Animal Industry, United States Department of Agriculture. A list of the official State agencies may be obtained from this Bureau, and the names of members of the industry who are participating may be obtained from the official State agencies.

THE NATIONAL POULTRY IMPROVEMENT PLAN[1]

Prepared by specialists of the Bureau of Animal Industry, in cooperation with poultry leaders, poultry breeders, and members of the breeder and commercial hatchery industry.

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ARTICLE 1. GENERAL REGULATIONS

REGULATION 1.—For the purposes of this plan the following words, phrases, names, and terms shall be construed, respectively, to mean—

Paragraph 1. **Plan.**—The National Poultry Improvement Plan.

Par. 2. **Turkey plan.**—The National Turkey Improvement Plan.

Par. 3. **Official State agency.**—The agency recognized by the Bureau of Animal Industry, United States Department of Agriculture, to cooperate in the administration of the plan within the State. It may be the State department of agriculture, State college of agriculture, State poultry-improvement board or association, or other agency recognized officially by the State government.

[1] The original edition of this plan was issued, in mimeographed form, in September 1935. It has been revised periodically in accordance with changes recommended by representatives of the cooperating States and approved by the Bureau of Animal Industry.

Washington, D. C.

Issued January 1938
Revised June 1948

Par. 4. **State inspector.**—An employee or authorized representative of the official State agency whose duties in connection with the plan comprise the official inspection of flocks, eggs, chicks, hatcheries, poultry premises, records, and methods employed in carrying on the work of the plan.

Par. 5. **R. O. P. supervisor.**—An employee or authorized representative of the official State agency whose duties in connection with the plan are to represent the official State agency in its supervision of U. S. R. O. P. (U. S. Record of Performance) and U. S. R. O. M. (U. S. Register of Merit) work and to vouch for the accuracy of all U. S. R. O. P. and U. S. R. O. M. records made by the U. S. R. O. P. breeders under his jurisdiction.

Par. 6. **R. O. P. inspector.**—An employee or authorized representative of the official State agency whose duties in connection with the plan are the inspection of flocks and records of U. S. R. O. P. breeders.

Par. 7. **Flock-selecting agent.**—A person who has taken a course of training in and passed an examination on (1) the selection of breeding stock for standard-bred and production qualities as prescribed by the State college of agriculture or other properly constituted State agency and (2) the plan provisions as applied in the State, and who has been authorized by the official State agency to do the flock-selecting work as provided for in the U. S. Approved and U. S. Certified breeding stages. As an emergency and to take care of individual cases only, the official State agency may, at its discretion, authorize flock-selecting agents who have not taken the specified course of training. Only those persons who have demonstrated to the official State agency through work in the field that they are capable of doing satisfactory selecting work may be so authorized.

Par. 8. **State pullorum tester.**—An employee or authorized representative of the official State agency, who has training in pullorum-testing technique, a working knowledge of the plan provisions as applied in the State, and other qualifications necessary to do the pullorum-testing work as provided for in the plan; however, no person can qualify as a State pullorum tester for work in a hatchery in which he has a financial interest, either entire ownership, partial ownership, or employment.

Par. 9. **Pullorum-testing agent.**—A person who has taken a course of training in and passed an examination on (*1*) pullorum testing as prescribed by the State livestock sanitary authorities or officials of the State college of agriculture and (*2*) the plan provisions as applied in the State, and who has been authorized by the official State agency to do the pullorum-testing work. As an emergency and to take care of individual cases only, the official State agency may, at its discretion, authorize pullorum-testing agents who have not taken the specified course of training. Only those persons who have demonstrated to the official State agency through work in the field that they are capable of doing satisfactory testing work may be so authorized.

Par. 10. **Blood collector.**—A person who has been trained in the proper method of collecting blood samples for the pullorum disease test, who has passed an examination on the plan provisions as applied in the State and who has been authorized by the official State agency to do the blood-collecting work.

Par. 11. **Eggs and hatching eggs.**—Chicken eggs and chicken hatching eggs.

Par. 12. **Baby chicks.**—Chicks that have not been fed or watered.

Par. 13. **Started chicks.**—Chicks that have been fed or watered.

Par. 14. **Breeding stock.**—Chickens to be used for breeding purposes.

Par. 15. **Flock.**—All chickens of one breed or variety on the same premises, except that cross-mated birds as provided in regulation 11 shall be considered as one flock.

Par. 16. **Flock owner.**—A person, firm, or corporation maintaining a breeding flock of chickens.

Par. 17. **Hatchery.**—Hatchery equipment on one premises operated or controlled by any person, firm, or corporation producing chicks.

Par. 18. **U. S. R. O. P.**—U. S. Record of Performance.

Par. 19. **U. S. R. O. M.**—U. S. Register of Merit.

Par. 20. **Official label.**—A label, obtained through or approved by the official State agency, on which are indicated the product, the breeding stage, and the pullorum class.

Par. 21. **Crossbred hatching eggs and chicks.**—Hatching eggs and chicks produced: (a) By crossing two different breeds or varieties; or

(*b*) By crossing first generation poultry resulting from the combination of two different breeds or varieties with another and different breed or variety; or

(*c*) By crossing the first generation poultry resulting from the combination of two different breeds or varieties with the first generation poultry resulting from the combination of two other different breeds or varieties.

Par. 22. **Inbred.**—The first generation poultry, chicks, or eggs, produced by a mating of poultry of known relationship, related to the degree of first cousins or closer.

Par. 23. **Inbred line.**—A group of inbred poultry, or the chicks or eggs, resulting from at least four generations of inbreeding. The poultry constituting the line must be individually identified as to origin and so interrelated that the mating of any pair within the line would result in progeny with an amount of inbreeding exceeding that resulting from three successive generations of full brother-sister matings (coefficient of more than 50 percent).

Par. 24. **Incrossbred.**—The first generation poultry, chicks, or eggs produced:

(*a*) By crossing two inbred lines of different breeds or varieties; or

(*b*) By crossing first-generation poultry resulting from the combination of two inbred lines of different breeds or varieties with another inbred line of different breed or variety; or

(*c*) By crossing the first-generation poultry resulting from the combination of two inbred lines with the first-generation poultry resulting from the combination of two other inbred lines when each line used is of different breed or variety than any other used.

First-generation poultry produced by crossing two inbred lines of the same breed or variety may be used in lieu of an inbred line of that breed or variety.

REGULATION 2.—The official State agency shall conduct efficiently the inspection work called for in the plan and shall direct, administer, supervise, and be responsible for all the work done relative to

flock selection in the various breeding stages and to testing for pullorum disease as provided for in the plan.

The Bureau of Animal Industry shall have the right to terminate, after opportunity for informal hearing, in accordance with its memorandum of understanding with any official State agency, its cooperation with such agency if in the opinion of the Bureau the agency is not properly administering the National Poultry Improvement Plan.

REGULATION 3.—Poultry laying and breeding houses shall be kept clean and in good condition. The land in the immediate vicinity of the poultry laying and breeding houses shall be kept in sanitary condition.

REGULATION 4.—Hatcheries and all equipment shall be kept in strictly sanitary condition. All incubators must be thoroughly cleaned and disinfected by spraying or fumigating after each hatch by means of an officially recognized method.

REGULATION 5.—All eggs used in any breeding stage of the plan shall be reasonably uniform in size and shape and sound in shell. In the case of all white-egg breeds, U. S. Approved hatching eggs shall be reasonably free from tints, and eggs of other U. S. breeding stages shall be free from tints.

REGULATION 6.—The management of a hatchery participating in the plan shall maintain the identity of hatching eggs being incubated, including those which are being custom-hatched, and shall keep accurate records concerning the name and address of each flock owner; the number of eggs received from each flock owner: the name and address of each purchaser; the number, hatchery grade, if any, breed and variety, and date of shipment or delivery of all chicks and hatching eggs. These records shall be open for official inspection at all times. Eggs received and chicks hatched shall be subject to inspection at all times.

REGULATION 7.—All chicks sold or offered for sale under the plan terminology shall be normal and representative of the breed and variety.

REGULATION 8.—Shipment of chicks shall be made in approved types of chick boxes properly ventilated and securely tied, and chicks shall be shipped to reach the ultimate purchaser within the time limit prescribed by the United States Postal Regulations.

REGULATION 9.—Chicks and hatching eggs produced under the rules and regulations of the plan shall lose their identity as of the plan terminology when they are purchased for resale by nonparticipants.

REGULATION 10.—Chicks and hatching eggs of identical U. S. breeding stages and pullorum classes may be exchanged or bought for resale by members of the industry who are participating in the same phases of the plan. Participants may purchase hatching eggs or chicks of a higher stage or class than those which they produce, but such products may not be sold as of the higher stage or class.

REGULATION 11.—Only one variety of chickens shall be kept on a farm unless, where more than one variety is kept, ample provision has been made to keep these varieties and their eggs separate in a manner satisfactory to the official State agency. With the approval of the official State agency, crossbred or incrossbred hatching eggs and chicks, as defined in regulation 1, paragraphs 21 and 24, may be produced and sold by participants in the plan, provided the parent stock is well selected for good vitality, growth, market quality, egg

production, feathering, and egg weight. The parent stock must also be leg-banded and the flock inspected as required in the U. S. Approved breeding stage. These flocks shall be designated as U. S. Approved crossmated or U. S. Certified crossmated, dependent upon the breeding of the males, or U. S. Approved incrossmated, and hatching eggs or chicks from such flocks shall be designated as U. S. Approved crossbred, U. S. Certified crossbred, and U. S. Approved incrossbred, respectively. Backcross and other matings of crossbred stock not covered by these specific provisions may be made with the permission of the official State agency, but the progeny produced from such matings shall not be advertised or sold as crossbred or incrossbred.

Regulation 12.—When more than one hatchery located within a State is operated under the same name, ownership, or management, one or more of these hatcheries may not participate in the plan unless all of them participate in the same breeding stage and pullorum class. In the event that any person, firm, or corporation has nonparticipating hatcheries in other States, no chicks or hatching eggs shall be shipped or delivered to the participating hatcheries from the nonparticipating hatcheries.

Regulation 13.—The use of the offical terminology or any portion thereof of any particular breeding stage or pullorum class of the plan in which members of the industry are participating shall be limited to hatching eggs, chicks, and breeding stock that meet at least the minimum requirements of that particular stage or class when produced by those under the jurisdiction of the official State agency.

Regulation 14.—Breeding stock and each bundle or package of hatching eggs and chicks sold or offered for sale by participants shall be designated by official labels or tags specifying the breeding stage and pullorum class in accord with the regulations of the plan, except that chicks that are seconds, culls, rejects, or abnormal for breed and variety characteristics shall not be sold or offered for sale under official labels. (See regulations 7 and 9.) With the approval of the official State agency, hatching-egg supply flock owners of a participating hatchery need not officially label each consignment of hatching eggs delivered to the hatchery.

Regulation 15.—All advertising must be in accordance with the rules and regulations of the plan and the Trade Practice rules of the Federal Trade Commission for the baby-chick industry. A participant using in his advertising the terms "R. O. P. sired," "R. O. P. pedigreed sired," "R. O. P. mated," or any other term or letters of similar meaning or implication shall clearly show the breeds and the approximate percentage or proportion of the birds in his matings (flocks supplying him with hatching eggs or chicks) of each breed that are of that quality. Participants who are not R. O. P. breeders shall not use advertising or other sales efforts which imply that they are R. O. P. breeders. Copies of proposed folders, catalogs, circulars, or other printed literature shall be submitted to, and approved by, the official State agency before being printed. Copies of such literature, after being printed, shall be filed with the official State agency. Copies of all publication advertising shall be mailed to the official State agency at or before the time these advertisements are submitted to the publisher or publishers.

The advertising literature of hatcheries which have places of business in more than one State shall be approved by the official State

agency in which the main or home office is located after being checked by the Bureau of Animal Industry, except that local advertising literature for each State, branch, or branches shall be approved by the official State agency of each such State in which branches are located. Refer also to regulation 22 for proper use of terms.

Regulation 16.—Participation in one of the pullorum classes shall be a prerequisite to participation in any of the breeding stages of the plan, except that an R. O. P. breeder who fails to qualify for one of the pullorum classes may continue to participate in the R. O. P. breeding stage, so long as he satisfies the official State agency that he is proceeding as rapidly as possible to qualify for one of the pullorum classes. During this period, each sale of hatching eggs, baby chicks, and breeding stock must first be approved by the official State agency.

Beginning with the season of 1950–51, participation in one of the breeding stages of the plan shall be a prerequisite to participation in any of the pullorum classes of the plan.

Regulation 17.—The use of the word "accredited" to indicate breeding improvement or disease eradication or control or its use in any other way is prohibited.

Regulation 18.—The National Poultry Improvement Plan emblem (see cover page), the official terms and various designs illustrative of the breeding stages and the pullorum classes (figs. 1 to 8) may be used only by participants who have met the specific requirements and in each case where the National Poultry Improvement Plan emblem is used in advertising, the breeding stage and pullorum classification shall be shown.

Regulation 19.—The selection of birds in a flock to qualify as U. S. Approved or U. S. Certified by a State inspector shall be regarded as one official inspection, provided a complete inspection is made and so reported.

Regulation 20.—Males that are candidates for U. S. R. O. P. qualification may be dubbed, provided each bird has been officially examined by a State inspector and passed in respect to comb disqualifications. Such birds must otherwise comply with all regulations pertaining to the qualifications of U. S. R. O. P. males not earlier than 6 months of age. A record of the number of males passed for dubbing in each flock, the breeder from whom the males were procured, and the complete wing-band numbers of those disqualified shall be made and sent to the official State agency within 10 days after such examination and dubbing. With the approval of the official State agency, flock-selecting agents may officially examine and approve cockerels in respect to comb disqualifications.

Regulation 21.—Any person, firm, or corporation desiring to participate in the plan except flockowners who are affiliated with participating hatcheries shall sign an agreement with the official State agency and shall not purchase, receive, offer for sale, or be a dealer in or agent for breeding stock, hatching eggs, or chicks other than those produced under the plan except with permission from the official State agency. In certain cases special permission may be granted by the official State agency, in writing, to purchase hatching eggs, chicks, or breeding stock not produced under the plan for use in breeding or hatching-egg supply flocks. In such cases a report shall be made to the official State agency on each shipment received and to whom

delivered. With the permission of the official State agency, market eggs may be bought and sold.

REGULATION 22.—Flocks, hatching eggs, hatcheries, and chicks that have met the requirements of both a breeding stage and a pullorum class of the plan shall be designated in accordance with the stage and class attained as follows: U. S. Approved, Pullorum-Tested; U. S. Approved, Pullorum-Controlled; U. S. Approved, Pullorum-Passed; U. S. Approved, Pullorum-Clean; U. S. Certified, Pullorum-Tested; U. S. Certified, Pullorum-Controlled; U. S. Certified, Pullorum-Passed; or U. S. Certified, Pullorum-Clean.

Matings, hatching eggs, chicks, and birds that have met the requirements of the U. S. R. O. P. breeding stage and a pullorum class of the plan shall be designated in accordance with the class attained as follows: U. S. R. O. P., Pullorum-Tested; U. S. R. O. P., Pullorum-Controlled; U. S. R. O P, Pullorum-Passed; or U. S. R. O. P., Pullorum-Clean.

Where descriptive terms are used in advertising in addition to the official terminology of the plan, such terms shall be clearly explained. (E. g., if more than one hatchery grade of U. S. Approved chicks is offered for sale and the chicks in one of such grades are sired entirely by U. S. R. O. P. males, it is sufficient and proper to describe such a grade as "U. S. Approved chicks sired by U. S. R. O. P. males".)

Participants in the plan may use the terms "R. O. P. sired," "R. O. P. pedigreed sired," "R. O. P. mated," or any other term or letters of similar meaning or implication to describe chicks, only when the males siring the chicks so described have been officially leg-banded as U. S. R. O. P. males.

REGULATION 23.—The minimum hatching egg weight for the U. S. Approved and U. S. Certified stages for the months December through June shall be $1\frac{11}{12}$ ounces each. The minimum for the months July through November shall be $1\frac{10}{12}$ ounces each except that during these months, eggs weighing as low as $1\frac{8}{12}$ ounces each may be set for the production of chicks designated as "broiler chicks." These minimum egg-weight requirements shall not apply to breeds and varieties for which the standard weight of the hen is less than 4 pounds.

REGULATION 24.—Started chicks shall be labeled as such, and all the chicks in each lot sold or offered for sale shall be of the same age (hatching date) unless otherwise specified.

REGULATION 25.—With the approval of the official State agency, hatching-egg and chick dealers may participate in the plan and enjoy all the privileges of participating hatcheries in the handling of hatching eggs and chicks, provided all the applicable requirements for participating hatcheries are fully and completely complied with.

REGULATION 26.—Noncompliance with the provisions of the plan which is not corrected within a reasonable time shall bar any participant from further participation for a period of 2 years. Such action shall not be taken until a thorough investigation and hearing have been conducted by the official State agency.

REGULATION 27.—Participation in any phase of the plan shall be construed as maintaining supervision and compliance throughout the 12 months of the year. (It is understood that a participant may withdraw from participation or that his agreement may be terminated by the official State agency for cause.)

REGULATION 28.—A participant in any phase of the plan may not incubate or hatch turkey eggs in the same room as chicken eggs unless the turkeys are of the same or higher pullorum classification.

REGULATION 29.—A new or nonstandard breed or variety may only be accepted in the U. S. Approved and U. S. Certified breeding stages of the plan provided a suitable standard for the breed or variety has been approved by a joint committee of the National Poultry Improvement Plan and the American Poultry Association. With the permission of the official State agency, a limited number of chicks may be distributed to selected patrons for the purpose of obtaining large scale field trials in the development of new breeds.

REGULATION 30.—Effective July 1, 1949, a hatchery to be eligible for participation in the National Poultry Improvement Plan may not brood or keep started chicks or poultry of any age in the same room in which the incubators are located.

REGULATION 31.—All applicants for participation in the National Poultry Improvement Plan shall demonstrate to the satisfaction of their official State agency, prior to their admission to such participation by the agency, that their facilities, personnel, and practices are adequate for carrying out the applicable provisions of the National Poultry Improvement Plan.

ARTICLE 2. BREEDING STAGES

SECTION 1. U. S. APPROVED BREEDING STAGE

Paragraph 1. **U. S. Approved flocks.**—These flocks shall meet the following requirements:

(*a*) Females shall be rigidly and thoroughly selected once each year for constitutional vigor and for egg production, such selected females to combine standardbred and production qualities to a reasonably high degree; (*b*) males shall be selected especially for constitutional vigor and standardbred qualities; (*c*) the selection of the flocks shall be approved by a State inspector.

Par. 2. The method of selecting poultry breeding stock prescribed by the State college of agriculture or other properly constituted State agency shall serve as the basis for the selection of males and females. All birds to be used in U. S. Approved flocks shall be selected by a State inspector or by a flock-selecting agent.

Par. 3. All birds selected for U. S. Approved flocks shall be banded at the time of selection with sealed and numbered leg bands obtained through the official State agency. With the permission of the official State agency, individually wing-banded females on an R. O. P. breeder's own farm need not be leg-banded for the production of U. S. Approved and U. S. Certified chicks, provided (1) all the females on the premises are individually wing-banded, and (2) that a complete record of the wing-band numbers of the females in each pen is made at the time of selecting and testing. Birds rejected by the State inspector or by the flock-selecting agent shall have their tails clipped, have their leg bands removed, and be kept separate from the breeding flocks. The selection of birds for a U. S. Approved flock shall be completed at least 10 days before any eggs are saved for hatching purposes, except that this 10-day interval shall not be required if all males found in the flock are approved.

Par. 4. Before any flock other than one affiliated with a participating hatchery may be recognized as a U. S. Approved flock, it must be inspected and approved by a State inspector. Each year at least 15 percent of the hatchery flocks supplying eggs to a U. S. Approved hatchery and at least 15 percent of the flocks selected by each flock-selecting agent shall be inspected and approved by a State inspector. The State inspector shall determine which flocks shall be inspected, and the inspection shall consist in the physical examination of a sufficient number of males and females to satisfy him that the flock is worthy of approval.

Par. 5. No birds except those with sealed and numbered official leg bands or wing bands as provided in paragraph 3, shall be allowed in the breeding flocks, and no male birds shall be allowed in any other mature flock on the same premises except in U. S. Certified or U. S. R. O. P. flocks. This shall not be construed as permitting a U. S. Approved and a U. S. Certified flock of the same breed and variety on one farm.

Par. 6. **U. S. Approved hatching eggs.**—Such eggs shall come only from U. S. Approved flocks or a higher U. S. breeding stage and shall weigh at least $1\frac{11}{12}$ ounces each, except as provided for in regulation 23.

Reg. U. S. Patent Office

(GREEN)

FIGURE 1.—Design authorized to identify U. S. Approved hatching eggs, chicks, flocks, and hatcheries.

Par. 7. **U. S. Approved chicks.**—They shall be hatched only from U. S. Approved eggs and in U. S. Approved hatcheries.

Par. 8. **U. S. Approved hatcheries.**—These hatcheries may sell only hatching eggs and chicks produced under the breeding stages of the plan, except as provided for in regulation 11. Hatching eggs and chicks of the U. S. Certified stage of varieties other than those sold as U. S. Approved may be hatched or sold in a U. S. Approved hatchery. A U. S. Approved hatchery operated by a U. S. R. O. P. breeder may sell U. S. R. O. P. hatching eggs and chicks. U. S. Approved hatcheries shall be inspected and approved by a State inspector at least once during the hatching season.

SECTION 2. U. S. CERTIFIED BREEDING STAGE

Reg. U. S. Patent Office

(YELLOW)

FIGURE 2.—Design authorized to identity U. S. Certified hatching eggs, chicks, flocks, and hatcheries.

Paragraph 1. **U. S. Certified flocks.**—These flocks shall fulfill all the requirements of U. S. Approved flocks and shall be mated to U. S. R. O. P. males. For the first 2 years of U. S. R. O. P work carried on by any breeder, the males for his own flock need not be U .S. R. O. P. males but must be individually pedigreed and of breeding which meets the qualifications for U. S. R. O. P. males. All such males may be used in subsequent breeding seasons if reinspected and certified by the official State agency. The males and females shall be of at least qualifying standard weight as designated by the official State agency in cooperation with the State college of agriculture or other properly constituted State agency, which gives the prescribed training in

selecting poultry breeding stock. The males and females shall be selected by either a State inspector or a flock-selecting agent once each year, and if selected by a flock-selecting agent, at least 50 percent of the flocks selected by each agent shall be inspected by a State inspector. This flock inspection shall consist in the examination of a sufficient number of males and females and the checking of the wing bands on a sufficient number of males to satisfy the State inspector that the flock is worthy of certification.

Par. 2. **U. S. Certified hatching eggs.**—Such eggs shall come only from U. S. Certified flocks and shall weigh at least $1\frac{11}{12}$ ounces each and average at least 24 ounces to the dozen, except as provided for in regulation 23.

Par. 3. **U. S. Certified chicks.**—They shall be hatched only from U. S. Certified eggs and in U. S. Certified hatcheries, except that a hatchery may produce and sell U. S. Certified chicks of one breed or variety and U. S. Approved of another breed or variety, in which case the hatchery shall be recognized as a U. S. Approved hatchery.

Par. 4. **U. S. Certified hatcheries.**—These hatcheries may sell only U. S. Certified hatching eggs and chicks except as provided for in regulation 11. A U. S. Certified hatchery operated by a U. S. R. O. P. breeder may sell U. S. R. O. P. hatching eggs and chicks. U. S. Certified hatcheries shall be inspected and approved by the State inspector at least twice during the hatching season.

Par. 5. With the approval of the official State agency, U. S. Certified flocks may be mated to Canadian R. O. P. males, provided such males meet U. S. R. O. P. qualifications.

Par. 6. **U. S. Certified crossmated flocks.**—The flocks shall fulfill the requirements of U. S. Approved crossmated flocks and shall be mated to U. S. R. O. P. males.

Par. 7. **U. S. Certified crossbred hatching eggs.**—Such eggs shall come only from U. S. Certified crossmated flocks and shall weigh at least $1\frac{11}{12}$ ounces each and average at least 24 ounces to the dozen except as provided for in regulation 23.

Par. 8. **U. S. Certified crossbred chicks.**—These chicks shall be hatched only from U. S. Certified crossbred hatching eggs. A hatchery may not sell U. S. Certified crossbred chicks and U. S. Approved crossbred chicks of the same cross.

SECTION 3. U. S. RECORD OF PERFORMANCE BREEDING STAGE

Paragraph 1. U. S. Record of Performance embraces records of egg production, egg weight, and body weight made on the breeder's premises under official supervision and similar records made at officially conducted egg-laying tests, State colleges of agriculture, and State and Federal experiment stations, when such records are passed on by the official State agency and when the individual birds meet other U. S. R. O. P. requirements, except that the birds produced by State colleges of agriculture and State and Federal experiment stations may be recognized as U. S. R. O. P. only for the use of U. S. R. O. P. breeders in their breeding work. With the approval of the official State agency, Canadian R. O. P. males may be used by U. S. R. O. P. breeders, provided such males meet U. S. R. O. P. qualifications.

Par. 2. The trap nests used in U. S. R. O. P. work shall be of an approved type and shall be kept in perfect working order at all times.

The poultry plant and all egg-production records shall be subject at all times to unannounced inspection by a State inspector. At the time of each inspection, the inspector shall have sole charge of the trap nests and of eggs laid. Each U. S. R. O. P. candidate shall be banded with a sealed and numbered official leg band. No females other than those entered in U. S. R. O. P. shall be allowed in the pens where U. S. R. O. P. candidates are being trap-nested, except with the approval of the official State agency.

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FIGURE 3.—Design authorized to identify U. S. R. O. P. hatching eggs, chicks, and breeding stock.

Par. 3. U. S. R. O. P. eggs and chicks may be produced only on a U. S. R. O. P. breeder's premises except that with the approval of the official State agency (*a*) a U. S. R. O. P. breeder may have eggs hatched by any hatchery operating under the plan provided the U. S. R. O. P. breeder does the pedigreeing of the chicks; and (*b*) a U. S. Approved or U. S. Certified hatchery owner may produce U. S. R. O. P. chicks from purchased U. S. R. O. P. eggs for the use of his hatchery-flock owners only, provided proper records of purchases are sent to the official State agency and a State inspector does the wing-banding of these chicks.

Par. 4. When U. S. R. O. P. hatching eggs are transferred from one U. S. R. O. P. breeder to another U. S. R. O. P. breeder or hatcheryman for the purpose of hatching U. S. R. O. P. chicks, the conditions that shall govern such a transaction include the following: (*a*) The U. S. R. O. P. breeder who sells U. S. R. O. P. hatching eggs must send a report in triplicate at the time the eggs are shipped consisting of a list of the eggs sold, the pen or sire number and dam number of each egg, and the egg production, average egg weight, and body weight of each dam, to the official State agency of his State. If the eggs are shipped outside the State, these records shall be attested to by the R. O. P. supervisor, who shall retain one copy and mail one copy to the purchaser and one to the official State agency of the State to which the eggs are shipped. (*b*) Within 5 days after hatching time the U. S. R. O. P. breeder or hatcheryman who purchased the eggs must send to his official State agency a list of the chicks hatched from each dam and their respective wing-band numbers.

Par. 5. When U. S. R. O. P. chicks, cockerels, or mature birds are sold or transferred by members of the industry participating in the plan, the individual making the sale must send a report in triplicate to the official State agency at the time these products are shipped giving the number of birds sold; the number, egg production, average egg weight, and body weight of each dam; and the pen or leg-band number of the sire of each chick, cockerel, or mature bird. If the chicks, cockerels, or mature birds are shipped outside the State, these records shall be attested to by the R. O. P. supervisor, who shall retain one copy and mail one copy to the purchaser and one to the official State agency of the State to which these products are shipped.

Par. 6. To be eligible for U. S. R. O. P. entry, all females shall have been raised from U. S. R. O. P. or U. S. Certified flocks or other flocks

of breeding satisfactory to the official State agency. Eligibility shall be confined to any standard breed or variety or any other breed or variety recognized by the United States Record of Performance Federation.

Par. 7. All birds trap-nested on the premises of a U. S. R. O. P. breeder, shall be considered as entered under U. S. R. O. P. supervision with the following exceptions: (*a*) Preliminary trap-nesting of all birds may be permitted during the first 30-day period. (*b*) An additional preliminary trap-nesting period of pedigreed candidates for 3 calendar months may be permitted to allow more time to select and enter candidates on a family basis; however, if a pedigreed candidate is continued in U. S. R. O. P. all her full sisters trap-nested beyond the 30-day period as candidates for U. S. R. O. P. must be considered as having been entered. (*c*) Candidates that react to the test for pullorum disease when officially tested within 4 months after trap-nesting has begun will not be considered as entered. (*d*) All qualified U. S. R. O. P. hens may be trap-nested. (*e*) With the written approval of the official State agency, a U. S. R. O. P. breeder may keep birds in individual laying cages or trap-nest inbred or other birds of experimental breeding, provided the trap-nest records of such birds are not referred to in advertising. (*f*) He may, with the approval of the official State agency, trap-nest any other breed or variety which he is developing as a basis for future U. S. R. O. P. work. (*g*) With the approval of the official State agency, hens in their second or subsequent production years may be privately trapped to complete lifetime egg records that were begun before U. S. R. O. P. work was undertaken.

Par. 8. All flocks shall be inspected at least five times a year. One or more consecutive days of inspection by the R. O. P. inspector shall represent a single inspection. In the event of an outbreak of contagious disease in a poultry plant where U. S. R. O. P. work is carried on, inspection may be temporarily suspended.

Par. 9. **Duties of R. O. P. supervisor.**—The R. O. P. supervisor shall represent the official State agency in its supervision of U. S. R. O. P. work, and he shall vouch for the accuracy of all U. S. R. O. P. and U. S. R. O. M. records made by U. S. R. O. P. breeders under his jurisdiction. He shall keep on file in his office for at least 5 years, (*a*) a record of all qualified males, with at least one-generation pedigree showing egg records and egg weights of the female ancestors, and (*b*) a record of all qualified females with their egg records and egg weights for their first year of production. He shall also keep on file a record of all U. S. R. O. P. matings and all U. S. R. O. P. chicks with at least one-generation pedigree.

Par. 10. The R. O. P. supervisor shall furnish the Bureau of Animal Industry, for publication, a summary of the U. S. R. O. P. work under his supervision each year, which shall include the following information for each flock.

(*a*) Total number of pullets of that particular breed on the farm.

(*b*) Number of pullets originally trapnested for the U. S. R. O. P. entry.

(*c*) Number of pullets withdrawn during trial period.

(*d*) Number of pullets entered in U. S. R. O. P.

(*e*) Number of pullets entered in U. S. R. O. P. which are individually pedigreed.

(*f*) Number meeting the U. S. R. O. P. requirements.
(*g*) Percentage of birds entered meeting the U. S. R. O. P. requirements.
(*h*) Number of birds qualifying which lay from 200 to 249 eggs.
(*i*) Number of birds qualifying which lay 250 to 299 eggs.
(*j*) Number of birds qualifying which lay 300 or more eggs.
(*k*) Average egg production of all birds entered.
(*l*) Average egg weight of all birds entered.
(*m*) Average body weight of all birds entered.

Par. 11. The R. O. P. supervisor may bring charges to the official State agency of his State against any U. S. R. O. P. breeder for falsifying records, for unethical conduct in his business methods, or for any other cause which he may consider detrimental to U. S. R. O. P. work. On such charges being proved in a fair hearing, the offending breeder must be reprimanded or suspended by the official State agency according to the nature of the offense.

Par. 12. **Duties of R. O. P. inspector.**—The R. O. P. inspector shall work under the direction of the R. O. P. supervisor. It shall be his duty to visit and inspect the work of each U. S. R. O. P. breeder at least five times each year, his visits to be so timed that each season of the year shall be represented in his reports, and at least three of these visits shall be unannounced. On each visit he shall do the trap-nesting for the day and shall record all eggs laid, and during the official egg-weighing period for the breeder shall weigh and record the weight of the egg laid by each individual bird entered in U. S. R. O. P. He shall examine hens apparently out of production to see that they are not being credited with eggs. During the breeding season he shall examine all birds in U. S. R. O. P. matings to see that the birds which constitute these matings are properly listed with the supervisor. He shall compare the number of eggs being incubated from each hen with the number she is credited with having laid during the corresponding period, and shall have authority to test these eggs for fertility. When the hatch is reported he shall compare his findings with the number of chicks reported hatched and wing-banded. He shall be courteous to breeders at all times but shall be on the alert to discover errors in records or violations of rules, intentional or otherwise. He shall immediately report to the supervisor any suspicious circumstances or appearance of fraud in the records or business dealings of a U. S. R. O. P. breeder.

Par. 13. **U. S. R. O. P. breeder.**—A U. S. R. O. P. breeder is a person, firm, or corporation maintaining a flock of chickens in accordance with the provisions of the U. S. R. O. P. breeding stage. In addition to the U. S. R. O. P. matings, all other mated birds supplying hatching eggs to such person, firm, or corporation or to any hatchery owned or operated by such person, firm, or corporation shall be under the supervision of the plan in one of the breeding stages.

Par. 14. The candidate flock or flocks of a U. S. R. O. P. breeder must be trap-nested at regular intervals every day throughout the year, except that the official State agency may approve as a substitute for daily trap-nesting of U. S. R. O. P. candidates (*a*) 6-day-a-week trap-nesting (the official egg record to be computed by multiplying the trap-nest record by 7/6), (*b*) 5-day-a-week trap-nesting (the official egg record to be computed by multiplying the trap-nest record

by 7/5), or (*c*) 3-day-a-week trap-nesting after a breeding flock has been established for a period of 2 years (the official egg record to be computed by multiplying the trap-nest record by 7/3). The breeder shall send to his supervisor, not later than the tenth day of each month, a complete record of all U. S. R. O. P. egg-production records and egg weights for the previous month. The egg production, pedigree, and sales records shall at all times be open to examination by the supervisor or inspector.

Par. 15. **U. S. R. O. P. qualification through egg-laying tests.**—The U. S. R. O. P. breeder who desires to have his laying-test entry considered as entered in U. S. R. O. P. shall make application in writing to the manager of the test not later than January 1. The manager of the laying test will be expected to keep a special record on such entries on N. P. I. P. Form 17, Report of Birds Entered in Egg-Laying Tests by U. S. R. O. P. breeders. At the end of the laying-test year the birds shall be examined for final qualification and officially leg-banded by the R. O. P. inspector or supervisor in the State to which the birds are sent from the test. Only those entries of U. S. R. O. P. breeders who are doing home trap-nesting of pullets of the same breed and variety under R. O. P. supervision are eligible for U. S. R. O. P. entry and qualification. Necessary records will be forwarded to the breeder and the supervisor by the laying-test manager.

Egg weights for laying-test entries will be based on the average weight of eggs laid on three consecutive days during the first full week of each month from January to May, inclusive. Additional eggs may be weighed after the 5-month period to meet the minimum number of eight (8) egg weights required for qualification in R. O. P.

Par. 16. **U. S. R. O. P. females.**—Pullets shall have laid 200 or more eggs during the first laying year and yearling and older hens shall have laid 200 or more eggs during the trap-nest year. The first laying year and the trap-nest year, in the case of birds on the breeder's premises shall mean 365 days from the date of laying the first egg in a trap-nest. In the case of egg-laying-test pullets and hens, the first laying year or the trap-nest year shall mean the duration of the official laying-test year. To facilitate the preparation of the annual R. O. P. summary the R. O. P. supervisor may close all records by November 30, but birds that have not completed their first laying year may be permitted to do so and be included in the following year's summary.

Par. 17. The qualifying average egg weight for pullets shall be 24 ounces to the dozen and for yearling or older hens shall be 25 ounces to the dozen. Official egg weights shall be based on the average of not less than eight individual egg weights. Eggs shall be weighed either four consecutive days each month, or on the same day each week for any four consecutive months between January 1 and July 1 previously indicated by the breeder. When the 3-day-a-week trap-nesting system is used, eggs shall be weighed 3 consecutive days each month for a period of 5 months between January 1 and July 1, previously indicated by the breeder. The inspectors' weights taken during the official weigh period shall be included in computing the average and the number of weights. Additional eggs may be weighed

after the official weigh period to meet the minimum number of 8 egg weights required for qualification.

Par. 18. The U. S. R. O. P. breeder and the R. O. P. inspector shall record the leg-band numbers of all U. S. R. O. P. candidates showing a standard disqualification, laying eggs of undesirable shape or shell texture, or laying tinted eggs in the case of white-egg breeds. Such birds shall not qualify as U. S. R. O. P. females. The R. O. P. inspector may remove the U. S. R. O. P. leg band from any bird which develops these defects subsequent to qualification.

Par. 19. All females shall be of at least qualifying body weight for hens and be reasonably good representatives for each breed or variety as designated in the American Standard of Perfection, allowance being made for the standard weight tolerance except that 3 pounds' tolerance shall be allowed for Plymouth Rocks, Jersey Giants, and breeds in the English and Asiatic classes. The following table gives the specific minimum qualifying female body weights for breeds and varieties participating in the U. S. R. O. P. breeding stage in 1946–47:

	Pounds
Australorp	3.5
Jersey White Giant	7.0
Langshan	4.5
Leghorn	3.5
Minorcas: White and Buff	4.5
New Hampshire	4.5
Orpington	5.0
Plymouth Rock	4.5
Rhode Island Red	4.5
Rhode Island White	4.5
Wyandotte	4.5

Each female shall be weighed between January 1 and June 1 by the R. O. P. inspector and this weight shall be used for the purpose of qualifying the bird for the U. S. R. O. P. At the option of the breeder and the official State agency, one additional weight taken by the breeder during the same period may be used in determining the official body weight.

Par. 20. All birds meeting the above requirements with respect to egg production, egg weight, eggshell color and texture, egg shape, body weight, and freedom from standard disqualifications, and that are reasonably good representatives of the breed or variety as designated in the American Standard of Perfection, shall be considered as having met the requirements for U. S. R. O. P. females. Before such birds may be sold as U. S. R. O. P. females or used in U. S. R. O. P. matings or flock matings of U. S. R. O. P. males and U. S. R. O. P. females, they shall be examined and banded by the R. O. P. inspector or supervisor with a U. S. R. O. P. sealed, official leg band.

Par. 21. **U. S. R. O. P. males.**—Males produced from U. S. R. O. P. chicks may be qualified as U. S. R. O. P. males for participants in the plan only. To qualify, such males shall have passed the final individual inspection of a State inspector not earlier than at 6 months of age, except that a flock-selecting agent may be permitted to select and leg-band U. S. R. O. P. males for use in U. S. Approved and U. S. Certified flocks. The State inspector shall examine a sufficient number of the males selected and leg-banded by each flock-selecting agent to de-

termine that the selection was satisfactory. Each male passed by an inspector or flock-selecting agent shall possess strong constitutional vigor and be a good representative of the breed and variety as designated in the American Standard of Perfection, shall be free from standard disqualifications, and shall be banded with a U. S. R. O. P. sealed and numbered official leg band when selected. At the time of selection and banding the inspector or flock-selecting agent shall make a complete record of the wing- and leg-band numbers of each male banded. Privately pedigreed males referred to in the next paragraph and the non-R. O. P. males referred to in paragraph 29 that have met the progeny-test requirements for U. S. R. O. M. males shall be considered as having met the requirements for U. S. R. O. M. and U. S. R. O. P. males and may be officially leg-banded as such.

Par. 22. **U. S. R. O. P. matings.**—These matings shall be comprised of only U. S. R. O. P. females mated to a U. S. R. O. P. male. The breeder may place in the U S. R. O. P. mating females that are not U. S. R. O. P., provided he does not sell pedigreed eggs, chicks, or stock from such females as U. S. R. O. P. products. During the first year of U. S. R. O. P. breeding work carried on by any breeder, the male used in U. S. R. O. P. matings need not be a U. S. R. O. P. male, provided he is of equal pedigree. Such males may be used in similar matings during the second year of U. S. R. O. P. breeding work, if reinspected and passed by the inspector, but not thereafter unless they qualify as U. S. R. O. M. males. No eggs or progeny from such a mating shall be sold as U. S. R. O. P. products, except that male offspring produced during the first breeding year may be permitted to head U. S. Certified flocks in the State where produced or to head U. S. R. O. P. matings on the breeder's premises.

Par. 23. Only one male shall be allowed in a single U. S. R. O. P. mating at any one time, and the date of entry and removal of males shall be properly recorded.

Par. 24. All breeding hens in U. S. R. O. P. matings shall be trapnested during the breeding season and all egg-production records shall be submitted to the official State agency. An annual inspection of pedigreed hatching facilities, method, and chick-banding techniques shall be made on each R. O. P. farm at time of banding.

Par. 25. **U. S. R. O. P. hatching eggs.**—U. S. R. O. P. hatching eggs shall come only from U. S. R. O. P. matings. Such eggs offered for sale shall weigh at least 2 ounces each and 25 ounces or more to the dozen except that no minimum weight requirements shall apply to eggs from U. S. R. O. M. dams. Each egg shall bear the U. S. R. O. P. number of the hen that laid it and the number of the mating.

Par. 26. **U. S. R. O. P. chicks.**—They shall come only from U. S. R. O. P. eggs. The chicks from each female shall be hatched separately in pedigree baskets or sacks and shall be banded individually with sealed and numbered official wing bands at the time of removal from pedigree baskets or sacks. Such bands shall be stamped with the letters "U. S. R. O. P." and shall be so numbered as to permit no two chicks on the same breeder's farm being identically numbered. When eggs are incubated to produce U. S. R. O. P. chicks, an accurate record of the number of eggs from each hen with her pen number and a record of all chicks banded shall be furnished the R. O. P. super-

visor on N. P. I. P. Form 8, or a substitute form, at the end of each four hatches. The chicks shall be subject to inspection at any time. The bands from dead chicks shall be retained for the information of the inspector and shall be furnished to him on request.

Par. 27. **U. S. R. O. P. candidate matings.**—These matings shall be comprised of the U. S. R. O. P. candidate females mated to U. S. R. O. P. males. During the first year of U. S. R. O. P. breeding work carried on by any breeder, the males used in U. S. R. O. P. candidate matings need not be U. S. R. O. P. males, provided they are of equal pedigree. Such males may be used in similar matings during the second year of U. S. R. O. P. breeding work, if reinspected and passed by the R. O. P. inspector. The breeder shall send the R. O. P. supervisor at the end of each month, a complete report on the birds comprised in these matings, the number of eggs incubated and sold, and the number of chicks hatched and sold. Hatching eggs sold as coming from such matings may be properly identified or stamped with the letters "Cand." Chicks sold as coming from such matings may properly be identified or wing-banded with official wing-bands stamped "Cand."

Par. 28. **U. S. R. O. P. single-male candidate matings.**—Females entered in U. S. R. O. P. may be mated to a U. S. R. O. P. male for the purpose of obtaining progeny records a year earlier than would otherwise be possible. During the first year of U. S. R. O. P. breeding work carried on by any breeder, the male used in a U. S. R. O. P. candidate mating need not be a U. S. R. O. P. male, provided he is of equal pedigree. Such males may be used in similar matings during the second year of U. S. R. O. P. breeding work, if reinspected and passed by the inspector, but not thereafter unless they qualify as U. S. R. O. M. males. The breeder shall send the R. O. P. supervisor a complete report on the birds comprised in this mating, the number of eggs incubated, and the wing-band numbers of the chicks hatched and banded. Sealed and numbered official wing bands marked "Cand." shall be used to differentiate such chicks from U. S. R. O. P. chicks. The male progeny of the females which qualify as U. S. R. O. P. females may qualify as U. S. R. O. P. males for use on the breeder's own premises and to head U. S. Certified flocks in the State where produced, provided they meet all the requirements of U. S. R. O. P. males except that of being produced from U. S. R. O. P. chicks.

Par. 29. **Trial matings.**—With the approval of the official State agency a U. S. R. O. P. breeder may make trial matings in which a non-U. S. R. O. P. male may be mated to either U. S. R. O. P. or non-U. S. R. O. P. females. No hatching eggs, baby chicks, or breeding stock may be sold from such matings. The females from such matings may be entered as U. S. R. O. P. candidates, provided they are reasonably good representatives of the breed or variety as designated in the American Standard of Perfection. Such males and females, including those females referred to in the second sentence of Paragraph 22, page 16 that meet the progeny-test requirement for U. S. R. O. M. shall be considered as having met the requirements for U. S. R. O. M. The sires meeting U. S. R. O. M. requirements may be officially leg-banded as U. S. R. O. P. males provided they are free from standard disqualifications. The females meeting U. S. R. O. M. requirements may be leg-banded as U. S. R. O. P. females provided (1) they are free

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from standard disqualifications and (2) they have a family average egg production and egg weight equal to or better than the family average for all the daughters of the sire mate.

The sons from such matings may be eligible to qualify as U. S. R. O. P. males after their sires and dams qualify for U. S. R. O. M., provided they are reasonably good representatives of the breed and variety as designated in the American Standard of Perfection.

Par. 30. **Flock matings of U. S. R. O. P. males and U. S. R. O. P. females.**—Such matings may properly be maintained by U. S. R. O. P. breeders provided the hatching eggs and chicks produced therefrom are not represented, sold or identified as U. S. R. O. P. products.

Par. 31. **Wing and leg-banding provisions.**—(*a*) All bands shall be obtained through or approved by the official State agency and all purchases of such shall be authorized by and recorded with the official State agency.

(*b*) The use of the letters R. O. P. alone or in combination with any other words or letters on wing bands or leg bands is limited to U. S. R. O. P. chicks, qualified males, and qualified females.

(*c*) Wing bands used on U. S. R. O. P. chicks shall be stamped with the letters U. S. R. O. P. and shall be so numbered as to permit no two chicks on the same breeder's farm being identically numbered.

(*d*) Chicks from matings of U. S. R. O. P. candidates with U. S. R. O. P. males may properly be identified with wing bands stamped with the letters "Cand."

(*e*) Chicks from flock matings of U. S. R. O. P. males and U. S. R. O. P. females may properly be identified with wing bands stamped with the words "Flock Mating" or abbreviations thereof.

SECTION 4. U. S. REGISTER OF MERIT BREEDING STAGE

Paragraph 1. For the purpose of qualifying for the U. S. Register of Merit stage, the progeny records for one breeding season only shall be considered.

Par. 2. **U. S. R. O. M. sire.**—A U. S. R. O. M. sire is a male which, when used in a supervised single-male mating, has at least one-half and a minimum of 20 of his daughters that are entered in U. S. R. O. P. qualify.

Par. 3. **U. S. R. O. M. dam.**—A U. S. R. O. M. dam is a female which, when used in a supervised single-male mating, has at least one-half and a minimum of 4 of her daughters entered in U. S. R. O. P. qualify.

Par. 4. **U. S. R. O. M. honor roll sire.**—A U. S. R. O. M. sire whose daughters had a family average egg weight of 24 or more ounces per dozen, and a hen-housed family average egg production as follows:

Number of daughters:	*Egg production*	Number of daughters:	*Egg production*
40 or more	200	32	219
39	202	31	222
38	204	30	225
37	206	29	230
36	208	28	235
35	210	27	240
34	213	26	245
33	216	25	250

Par. 5. **U. S. R. O. M. honor-roll dam.**—A U. S. R. O. M. dam whose daughters had a family average egg weight of 24 or more ounces per dozen, and a hen-housed family average egg production as follows:

Number of daughters:	*Egg production*
8 or more	200
7	210
6	225
5	250

Par. 6. **U. S. R. O. M. matings.**—These matings shall be comprised of U. S. R. O. M. females, or U. S. R. O. P. females from U. S. R. O. M. families (i. e., either their sire or dam qualified for U. S. R. O. M.) mated to a U. S. R. O. M. male or a son of a U. S. R. O. M. male.

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(PURPLE)

FIGURE 4.—Design authorized to identify U. S. R. O. M. sires, dams, and matings.

ARTICLE 3. PULLORUM-CONTROL AND ERADICATION CLASSES

SECTION 1. GENERAL PROVISIONS

Paragraph 1. The official State agency shall assume responsibility for the accuracy of the pullorum-testing work done.

Par. 2. All tests with pullorum, typhoid, or polyvalent antigens of flocks in any pullorum class or candidates for any pullorum class must be reported to the official State agency.

Par. 3. In order for a flock to qualify as U. S. Pullorum-Tested, U. S. Pullorum-Controlled, or U. S. Pullorum-Passed, the testing of the birds for pullorum disease shall be done by a State pullorum tester or a pullorum-testing agent.

Par. 4. In order for a flock to qualify as U. S. Pullorum-Clean, the testing of the birds for pullorum disease shall be done by a State pullorum tester, or pullorum testing agent, satisfactory to the official State agency, provided that when the testing is done by a pullorum testing agent, a representative of the official State agency shall check-test 15 percent or more and a minimum of 50 birds in each of 35 percent or more of the flocks tested by the agent or agents for each hatchery to satisfy the official State agency the testing work was satisfactory.

Par. 5. Chickens more than 5 months of age may not be added to U. S. Pullorum-Passed or U. S. Pullorum-Clean flocks except after the approval of the official State agency. Such birds from only U. S. Pullorum-Passed or U. S. Pullorum-Clean flocks may be added to U. S. Pullorum-Passed flocks, and only those birds from U. S. Pullorum-Clean flocks may be added to U. S. Pullorum-Clean flocks. The number of chickens more than 5 months of age and the name and address of the person from whom the purchase is to be made shall be furnished the official State agency. In moving these birds from one farm to another, due precaution should be taken to use clean, sanitary coops.

Par. 6. The official test for pullorum disease in the plan shall be one of the following agglutination tests:

(*a*) The standard tube agglutination test, as described in the Proceedings of the United States Live Stock Sanitary Association, November 30 to December 2, 1932, pages 487 to 491;

(*b*) The stained-antigen, rapid, whole-blood test[2] as described by Schaffer, MacDonald, Hall, and Bunyea, in the Journal of the American Veterinary Medical Association, volume 79 (n. s. 32), No. 2, pages 236–240, 1931; or such other rapid, whole-blood test as may be approved by the Bureau of Animal Industry, United States Department of Agriculture;

(*c*) The rapid serum test, as described by Runnells, Coon, Farley, and Thorp, Journal of the American Veterinary Medical Association, volume 70 (n. s. 23), No. 5, pages 660–662, 1927.

(For convenience of reference the essential features of the three tests are reprinted in the appendix of this plan.) Modifications from these procedures may be made operative by an official State agency upon approval of the Bureau of Animal Industry, United States Department of Agriculture.

Par. 7. All chickens to be used as breeders must be tested for pullorum disease when more than five months of age by means of one of the three official tests. Reactors must be removed from the premises on the completion of the test, and the premises must be immediately carefully cleaned and disinfected to the satisfaction of the official State agency.

Since only birds to be used as breeders are required to be tested, when other birds are kept on the same premises, ample provision must be made to keep these birds and their eggs separate.

Par. 8. Each lot of antigen used in the whole-blood testing (see par. 6*b*) for pullorum disease shall be approved by the Bureau of Animal Industry, United States Department of Agriculture.

Par. 9. All domesticated fowl such as turkeys, ducks, geese, pheasants, guineas, pea fowl, bantams, etc., shall either be properly tested to meet the same pullorum tolerance as the breeding flock of chickens, or be segregated from the breeding flock of chickens at all stages of development and during all seasons of the year.

Par. 10. In the event that tests to qualify or requalify flocks as U. S. Pullorum-Passed or U. S. Pullorum-Clean reveal any reactors, the owner shall have the right to submit, or the official State agency the right to request the submission of all reactors if five or less, or 20 percent of all reactors with a minimum of five and a maximum of 20, to a laboratory designated by the official State agency for autopsy and bacteriological examination. In case such bacteriological examination fails to reveal any conclusive evidence of pullorum infection, the flock shall be construed as having had no pullorum. All reactors not slaughtered for bacteriological examination shall be removed and disposed of in a manner satisfactory to the official State agency.

Par. 11. In the event of a thorough investigation or the presentation of other evidence which indicates that pullorum disease or fowl typhoid outbreaks are occurring in chicks, the official State agency may, at its discretion, require additional retesting of the flock or flocks, or make further autopsies and bacteriological examinations.

Par. 12. The custom hatching of eggs from non-U. S. Pullorum-Tested flocks is permitted in U. S. Pullorum-Tested and U. S. Pullorum-Controlled hatcheries, provided the incubation and hatching of such eggs are done in a separate room. The custom hatching of eggs from flocks of a lower pullorum class than U. S. Pullorum-Passed is not permitted in a U. S. Pullorum-Passed hatchery. The

[2] Complete information on this method of testing is contained in Miscellaneous Publication No. 349, The Use of the Rapid, Whole-Blood Test.

custom hatching of eggs from flocks of a lower pullorum class than U. S. Pullorum-Clean is not permitted in a U. S. Pullorum-Clean hatchery.

Par 13. In separating a room for the use of two or more incubators, to provide for custom hatching, a tight partition is absolutely necessary and must be provided. Outside ventilation and an outside entry for each room are required. Any door or opening between the two rooms must be sealed, as by weather stripping and locking, or by battening the cracks around the door in the room where eggs from nonqualified flocks are being incubated or hatched.

Par. 14. In the case of U. S. Pullorum-Controlled, U. S. Pullorum-Passed, and U. S. Pullorum-Clean flocks, all birds which are returned to the premises from poultry exhibits or egg-laying tests or which have been removed from the premises for any purpose whatsoever, shall be quarantined for at least 30 days and officially tested at the time of their return and again at least 30 days later, and any reactors shall be removed immediately after each test. In the event reactors are found such birds shall not be added to a U. S. Pullorum-Clean flock until they have passed two negative tests at least 30 days apart, and shall not be added to a U. S. Pullorum-Passed flock until they have passed one negative test for pullorum disease, each retest being at least 30 days apart.

Par. 15. Hatcheries participating in the pullorum classes only shall be inspected and approved by a State inspector at least once during the hatching season.

Par. 16. Each year at least 15 percent of the flocks participating in the pullorum classes only shall be inspected and approved by a State inspector. Field testing or blood collecting by a State pullorum tester or a State inspector shall be regarded as an official flock inspection provided a complete inspection is made and so reported.

Par. 17. After a flock has been classified as U. S. Pullorum-Tested, U. S. Pullorum-Controlled, or U. S. Pullorum-Passed by the official State agency, the results of any retesting of such flock during the current breeding and hatching season shall not adversely affect its pullorum classification for that season, except that if in the opinion of the official State agency the amount of reaction found in any flock or flocks is such as to be dangerous or detrimental to the operation of the plan, the official State agency shall require that such flock or flocks be retested after an interval of at least 30 days or that such flocks be immediately discontinued as hatching-egg flocks. Furthermore, in such cases the official State agency may require that the hatching eggs from such flocks be removed from the incubator and destroyed prior to hatching.

Par. 18. When more than one breeding flock of chickens is maintained on the same premises, all such flocks shall be given an official pullorum classification no higher than the lowest classification attained by any one of the flocks.

Par 19. In the event that eggs other than chicken or turkey eggs are to be incubated or hatched by a hatchery, such eggs shall be either produced by flocks that have been properly tested to meet at least the minimum pullorum tolerance of the hatchery or be hatched in separate rooms in accordance with paragraphs 12 and 13 of this section.

Par. 20. Ducks meeting the requirements for a pullorum classification may be given the same official recognition that is given chickens.

SECTION 2. U. S. PULLORUM-TESTED CLASS

Paragraph 1. **U. S. Pullorum-Tested flocks.**—These flocks shall meet the following requirements: (*a*) All chickens to be used as breeders shall be tested for pullorum disease when more than 5 months of age, under the supervision of an official State agency and shall contain fewer than 3 percent of reactors, the last test being made within 12 months immediately preceding the date of sale of hatching eggs or chicks from such flocks. At the end of the 1948–49 hatching season, the U. S. Pullorum-Tested class shall be deleted from the plan; (*b*) all indicated carriers of pullorum disease shall be removed from the premises on completion of the test and disposed of in a manner satisfactory to the official State agency; (*c*) all birds remaining in the flock shall be properly leg-banded; (*d*) individual birds introduced into U. S. Pullorum-Tested flocks shall have passed, within 12 months, a negative official test for pullorum disease.

Par. 2 A flock containing 3 percent or more of reactors on the first test on being retested at intervals of not less than 30 days, and all reactors being removed after each test until the percentage of reactors is less than 3, may qualify as a U. S. Pullorum-Tested flock.

Par. 3. **U. S. Pullorum-Tested hatching eggs.**—Such eggs are from officially tested birds in U. S. Pullorum-Tested flocks.

Par. 4. **U. S. Pullorum-Tested chicks.**—These are hatched from eggs produced by U. S. Pullorum-Tested, U. S. Pullorum-Controlled, U. S. Pullorum-Passed, or U. S. Pullorum-Clean flocks, in a U. S. Pullorum-Tested hatchery.

Par. 5. **U. S. Pullorum-Tested hatcheries.**—These hatcheries operate under the supervision of an official State agency and (1) buy or sell chicken or turkey hatching eggs; (2) incubate and hatch chicken or turkey eggs; (3) brood or sell chicks or poults; or (4) be dealers in or agents for such products from only U. S. Pullorum-Tested, U. S. Pullorum-Controlled, U. S. Pullorum-Passed, or U. S. Pullorum-Clean flocks, except that custom hatching may be carried on under the conditions prescribed in article 3, section 1, paragraphs 12 and 13.

Reg. U. S. Patent Office

(GREEN)

FIGURE 5.—Design authorized to identify U. S. Pullorum-Tested hatching eggs, chicks, flocks, and hatcheries.

SECTION 3. U. S. PULLORUM-CONTROLLED CLASS

Paragraph 1. **U. S. Pullorum-Controlled flocks.**—These flocks shall meet the following requirements: (*a*) All chickens to be used as breeders shall be tested for pullorum disease when more than 5 months of age, under the supervision of an official State agency, and shall contain fewer than 2 percent of reactors, the last test being made within 12 months immediately preceding the date of sale of hatching eggs or chicks from such flocks; (*b*) all indicated carriers of pullorum disease shall be removed from the premises on completion of the test and disposed of in a manner satisfactory to the official State agency; (*c*) all birds remaining in the flocks shall be properly leg-banded; (*d*) individual birds introduced into U. S. Pullorum-Controlled flocks shall have passed, within 12 months, a negative official test for pullorum disease.

Par. 2. A flock containing 2 percent or more of reactors on the first test on being retested at intervals of not less than 30 days, and all reactors removed after each test until the percentage of reactors is less than 2, may qualify as a U. S. Pullorum-Controlled flock.

Par. 3. **U. S. Pullorum-Controlled hatching eggs.**—Such eggs are from officially tested birds in U. S. Pullorum-Controlled flocks

Par. 4. **U. S. Pullorum-Controlled chicks.**—These are hatched from eggs produced by U. S. Pullorum-Controlled, U. S. Pullorum-Passed, or U. S. Pullorum-Clean flocks, in a U. S. Pullorum-Controlled hatchery.

Par. 5. **U. S. Pullorum-Controlled hatcheries.**—These hatcheries operate under the supervision of an official State agency and (1) buy or sell chicken or turkey hatching eggs, (2) incubate and hatch chicken or turkey eggs, (3) brood or sell chick or poults, or (4) be dealers in or agents for such products from only U. S. Pullorum-Controlled, U. S. Pullorum-Passed, or U. S. Pullorum-Clean flocks and hatcheries, except that custo mhatching may be carried on under the conditions prescribed in article 3, section 1, paragraphs 12 and 13.

Reg. U. S. Pat. Off.

(YELLOW)

FIGURE 6.—Design authorized to identify U. S. Pullorum-Controlled hatching eggs, chicks, flocks, and hatcheries.

SECTION 4. U. S. PULLORUM-PASSED CLASS

Paragraph 1. **U. S. Pullorum-Passed flocks.**—These flocks shall meet the following requirements: All chickens to be used as breeders shall be tested for pullorum disease when more than 5 months of age under the supervision of an official State agency, shall be officially leg-banded, and shall contain no reactors, the last test being made within the testing year immediately preceding the date of sale of hatching eggs or chicks from such flocks.

Reg. U. S. Pat. Off.

(RED)

FIGURE 7.—Design authorized to identify U. S. Pullorum-Passed hatching eggs, chicks, flocks, and hatcheries.

Par. 2. **U. S. Pullorum-Passed hatching eggs.**—Such eggs are from officially tested birds in U. S. Pullorum-Passed flocks.

Par. 3. **U. S. Pullorum-Passed chicks.**—These are hatched in a U. S. Pullorum-Passed hatchery from eggs produced by U. S. Pullorum-Passed or U. S. Pullorum-Clean flocks.

Par. 4. **U. S. Pullorum-Passed hatcheries.**—These hatcheries operate under the supervision of an official State agency and (1) buy or sell chicken- or turkey-hatching eggs, (2) incubate and hatch chicken or turkey eggs, (3) brood or sell chicks or poults, or (4) be dealers in or agents for such products from only U. S. Pullorum-Passed or U. S. Pullorum-Clean flocks and hatcheries.

SECTION 5. U. S. PULLORUM-CLEAN CLASS

Paragraph 1. **U. S. Pullorum-Clean flocks.**—These flocks shall meet the following requirements: (*a*) All chickens to be used as breeders shall be tested for pullorum disease when more than 5 months

of age, under the supervision of an official State agency, shall be officially leg-banded, and shall contain no reactors either in two consecutive tests not less than 6 months apart, or in three consecutive tests not less than 30 days apart, the last being made within the testing year immediately preceding the date of sale of hatching eggs or chicks from such flocks; (*b*) once a flock is established as U. S. Pullorum-Clean it remains so as long as no reactors are found in the official annual test of birds used as breeders; (*c*) flocks developed exclusively from U. S. Pullorum-Passed or U. S. Pullorum-Clean chicks may be recognized as U. S. Pullorum-Clean flocks on one annual test conducted under supervision of the official State agency if no reactors are found; (*d*) in order to retain a U. S. Pullorum-Clean classification all purchases of baby chicks must be from U. S. Pullorum-Passed or U. S. Pullorum-Clean sources. This requirement applies to chicks to be raised for meat production purposes as well as for breeding stock.

Par. 2. When not more than one-half of 1 percent, but in no case not more than four reactors are found in a flock having a U. S. Pullorum-Clean rating, one retest with no reactors of the unit or units involved followed by a retest with no reactors of the entire breeding flock may be used at the discretion of the official State agency in requalifying a flock for the U. S. Pullorum-Clean class. The retest shall be made at intervals of not less than 30 days, nor more than 6 weeks apart. Such a flock shall temporarily lose its status as U. S. Pullorum-Clean and, until requalification, chicks or hatching eggs from the flock shall not be represented to be U. S. Pullorum-Clean.

Reg. U. S. Pat. Off.

(BLUE)

FIGURE 8.—Design authorized to identify U. S. Pullorum-Clean hatching eggs, chicks, flocks, and hatcheries.

Par. 3. **U. S. Pullorum-Clean hatching eggs.**—Such eggs are from officially tested birds in U. S. Pullorum-Clean flocks.

Par. 4. **U. S. Pulorum-Clean chicks.**—These are hatched in a U. S. Pullorum-Clean hatchery from eggs produced by U. S. Pullorum-Clean flocks.

Par. 5. **U. S. Pullorum-Clean hatcheries.**—These hatcheries operate under the supervision of an official State agency and (1) buy or sell chicken- or turkey-hatching eggs, (2) incubate and hatch chicken or turkey eggs, (3) brood or sell chicks or poults, or (4) be dealers in or agents for such products from only U. S. Pullorum-Clean flocks or hatcheries.

APPENDIX

OFFICIAL TESTING FOR PULLORUM DISEASE [1]

For the benefit of active workers in laboratory and field, the essential portions of the original articles describing the three recognized methods of testing are herein reprinted verbatim.[2]

THE STANDARD TUBE AGGLUTINATION TEST

(Thirty-sixth Annual Meeting of the United States Live Stock Sanitary Association; Report of the Conference of Official Research Workers in Animal

[1] See footnote 2, p. 20.
[2] By permission of the editor of the Journal of the American Veterinary Medical Association.

Diseases, II. Serological Diagnosis of Pullorum Disease; Jour. Amer. Vet. Med. Assoc. 82 (n. s. 35) : 488–490, 1933).

Collection and delivery of blood samples.—The blood samples shall be taken by properly qualified and authorized persons only, and in containers provided by the diagnostic laboratory or other authorized agent. The containers should be stout-walled test-tubes, preferably ⅜ by 3 inches, without lip, or small well-selected medicine vials, which have been thoroughly cleaned and dried, in a hot-air drying-oven. The tubes are accompanied by selected cork stoppers which unless new, have been washed and thoroughly boiled or scalded, and dried. All birds must be officially leg-banded with bands supplied by the control agency.

The blood is procured by making a small incision in the large median wing vein, with a small, sharp lancet, and allowing the blood to run into the tube, or by the use of a small syringe (with 20- or 21-gage needle) which is properly cleansed between bleedings with physiological saline solution. From 1½ to 2 cc. of blood should be collected. The tubes are corked and laid on their sides in order to allow the blood to solidify in a long slant. After the tubes have completely clotted, they are packed and shipped by mail (special delivery), rapid express, or by messenger, to the laboratory. All labeling must be clear and permanent, and may be done with a suitable pencil on etched portions of the tubes, or by means of fast-gum labels.

The blood samples must reach the laboratory in a fresh and unhemolyzed condition. Hemolyzed samples should be rejected. It is imperative, therefore, to cool the tubes immediately after slanting and clotting, and unless they reach the laboratory within a few hours, to pack them with ice in special containers, or by some other cooling system which will insure their preservation during transportation. In severe cold seasons, extreme precaution must be exercised to prevent freezing and consequent laking. The samples must be placed in cold (5° to 10° C.) storage immediately upon arrival at the laboratory.

Preparation of antigen.—The antigen shall consist of three representative strains of *S. pullorum* which are of known, high agglutinability, but are not sensitive to negative and to nonspecific sera. They are grown on agar having the following composition:

Water	1,000 cc.
Difco beef extract	4gm. (0.4 percent).
Difco Bacto-peptone	10 gm. (1.0 percent).
Dry-granular agar (Difco)	20 gm. (2.0 percent).
Reaction-pH 6.8 to 7.2	

Large 1-inch test tubes, Kolle flasks or Blake bottles are streaked liberally over the entire agar surface with inoculum from *48-hour slant-agar cultures* prepared from the stock cultures of the selected strains.[3] Frequent resort to the stock cultures is highly desirable, in order to maintain the purity of the antigen, and to allow *long rest intervals for the organisms.* A second intermediate culture may be necessary at times to furnish luxuriant growth for the final transfers. The antigen-growing tubes or bottles are incubated 48 hours at 37° C. and the surface growth washed off with sufficient phenolized (0.5 percent) saline (0.85 percent) solution to make a heavy suspension or very light paste. The washings are filtered through lightly packed absorbent cotton placed in the apex of the funnel. The washings of the three separate strains are now combined in equal volume-density and stored in the refrigerator (5° to 10°) in tightly stoppered bottles.

The dilute antigen to be used in the routine testing is prepared from the stock antigen by dilution of the latter with physiological (0.85 percent) saline (C. P.)[4] solution containing 0.3 percent of phenol (Merck's blue or silver label brand), to a turbidity corresponding to 0.75–1.00 on the McFarland nephelometer scale. The hydrogen-ion concentration of the dilute antigen is corrected to pH 8.2 to 8.5 by the addition of dilute sodium hydroxide. In this narrow range thymol blue used as indicator (5 or 6 drops of the standard stock dilution added to from 5 to 6 cc. of the diluted antigen in ⅝-inch test tubes) imparts a dirty green to greenish-blue color to the tube. Cresol red (7.2 to 8.8) also may be employed. The color reaction should be checked frequently by comparison with standard buffer solutions, with the use of the comparator block, or by the potentiometer method. New dilute antigen should be prepared each day and kept cold.

[3] The stock cultures are maintained by transferring to new sloped agar at least once a month and keeping at 18° to 25° C. (average room temperature) in a dark closet or chest, following incubation for from 24 to 36 hours at 37° C. The purity of the stock cultures should be checked at definite intervals by microscopic examination of Gram-stained slides.

[4] The sodium chloride should be of tested purity.

The diluted antigen is employed in 2-cc. quantities in 4-inch by ½-inch test tubes or 1 cc. quantities in smaller tubes in which the final serum-antigen mixtures are made and incubated. The distribution of the antigen in the tubes may be accomplished by the use of long burettes, or special filling devices made for the purpose.

Serum dilutions, incubation, etc.—Either of two dilutions of the test sera may be employed, namely 1:25 or 1:50.[5] The 1:25 dilution, when used, shall serve as a finding dilution, and shall not be used to condemn a flock which has been placed on a * * * (pullorum-clean) list, or the immediate progeny of a * * * (pullorum-clean) flock, unless at autopsy the organism is found, or there is complete agglutination in dilutions of at least 1:50. In all official reports on the blood test the serum dilutions shall be indicated. The sera are introduced into the agglutination tubes in the desired amounts with well-cleaned serological pipettes or special serum-delivery devices which do not permit of the mixing of different sera.[6] The antigen and serum are well mixed before incubation.

Interpretation of results.—The results shall be recorded as:

N, or —, when the tube remains uniformly turbid, and there is no distinct settling of antigen.

P, or +, when there is a distinct clumping of the antigen, and the liquid between and above the agglutinated particles is clear. The reaction should be full 4+.

S, or ?, when the agglutination is only partial or incomplete (1+ to 3+). The reactions may be recorded as slightly suspicious, S or ?, or strongly suspicious, S or ?.

M, or missing, when samples listed on the original record sheet are missing.

H, or hemolyzed, when the blood samples were hemolyzed and unsatisfactory for the test.

B, or broken, when the sample tubes are broken on arrival, and no serum is obtained.

Some allowance must always be made for differences in the sensitiveness of different antigens and different set-ups, and therefore a certain amount of independent intelligent judgment must be exercised at all times. Also the histories of the flocks require consideration.

Preparation of the nutrient agar for antigen production.—Dissolve 20 gm. of dry Difco agar in 1,000 cc. of water, by heating from 15 to 20 minutes in a pressure sterilizer at 15 pounds' extra pressure. Add to the hot agar solution 4 gm. of Difco beef extract and 10 gm. of Difco Bacto-peptone. Test the reaction and adjust to as near pH 7.0 (6.8 to 7.2) as possible with dilute NaOH or HCl, as may be required. Heat for 10 to 15 minutes in the autoclave. Filter, if necessary, through absorbent cotton in funnel and fill into large tubes, special flasks or bottles.[7] Sterilize by autoclaving for 20 to 25 minutes at 15 pounds, extra pressure.[8] If partly purified or refined agar (preferably granular) is employed, the hot liquid medium should filter readily through the cotton, and be ready for tubing. Clarification with egg white or whole egg is necessary only when a poor or crude grade of agar is used. Stock nutrient agar should be kept away from sunlight and dust, and in a cool place.

THE STAINED-ANTIGEN, RAPID, WHOLE-BLOOD TEST

(Schaffer, MacDonald, Hall and Bunyea. Jour. Amer. Vet. Med. Assoc. 79 (n. s. 32): 236–240. 1931.)

NOTE.—The description of the preparation of the antigen is not herein reprinted because that product is produced only under license from the Secretary of Agriculture in accordance with specific directions.

The loop method.—The loop method is carried out as follows: At the end of a 2½-inch length of nichrome wire (Brown and Sharp gage No. 24[9]) a loop

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[5] There is much difference of opinion whether 1:25 or 1:50 should be the minimum dilution, and considerable research must be done before a final agreement can be reached.

[6] Where serological pipettes (graduated in 1/100 cc.) are employed, a separate pipette should be used for each serum. Care must be exercised at all times to prevent the laking of the red corpuscles with water.

[7] If the ingredients dissolve completely and the reaction needs no adjustment, the second heating and the filtering may be omitted.

[8] When Blake bottles or Kolle flasks are used for growing the antigen, an additional heating for 5 minutes is desirable.

[9] Experience has indicated that nichrome wire (Brown and Sharp gage No. 24) is too flexible for practical field use. Any noncorrosive wire (Brown & Sharp gage No. 20) looped around a No. 20 steel drill or around a 16-penny nail is sufficiently rigid and provides a standard amount of blood for the rapid, whole-blood test.

three-sixteenths of an inch in diameter is made. For convenience the wire is inserted into a small cork stopper which serves as a handle. It has been found that the blood can be measured rapidly and with sufficient accuracy by use of the wire loop. Such a loop when filled with blood, so that the blood appears to bulge out, delivers 0.02 cc. The antigen is measured by means of a medicine dropper whose tip is adjusted to deliver 0.05 cc. when operated in the vertical position. By this means, the proportion of antigen to blood is kept between the limits of 2 to 1 and 3 to 1, which has been found to give the most satisfactory results. A drop of stained antigen is placed on the glass plate. A loopful of blood is taken up from the wing vein. When submerged in the blood and then carefully withdrawn, the loop comes away properly filled. On looking down edgewise at the filled loop, one observes that the blood appears to bulge out.

The loopful of blood is then stirred into the drop of antigen and the mixture spread to a diameter of about 1 inch. The loop is then rinsed in clean water and dried by touching it to a piece of clean blotting paper, if necessary.

The glass plate is rocked from side to side a few times to mix the antigen and blood thoroughly, and to facilitate agglutination. The reaction is usually visible in from 5 seconds to 2 minutes. Slight reactions, which require more than 2 minutes, should as a rule be disregarded.

Various degrees of reaction are observed in this as in other agglutination tests. The greater the agglutinating power of the blood the more rapid the clumping and the larger the clumps. A positive reaction consists of a clumping of the antigen in well-developed violet flocculi surrounded by clear spaces. This reaction is easily distinguished against a white background. A somewhat weaker reaction consists of small but still clearly visible clumps of antigen surrounded by spaces only partially clear. The interpretation of these partial reactions should be the same as that of similarly incomplete "tube method" agglutination reactions. Between this point and a negative reaction there sometimes occurs a very fine granulation barely visible to the naked eye; this should be disregarded in making a diagnosis.

The very fine marginal flocculation which may occur just before drying up is also regarded as negative. In a nonreactor the smear remains homogeneous. A glass plate about 15 inches square providing space for 48 tests has proved satisfactory for this work. The use of the plate enables the tester to have a number of successive test mixtures under observation without holding up the work to wait for results before proceeding to the next bird. As a result of more than a year of experience in testing with this antigen, it has been decided to regard as definitely positive only those reactions which appear within 1 minute after mixing the antigen and blood, while those which appear more slowly are regarded as suspicious.

THE RAPID SERUM TEST

(Runnells, Coon, Farley, and Thorp, Amer. Vet. Med. Assoc. Jour. 70 (n. s. 23) : 660–662. 1927.)

Preparation of antigen, rapid method.—One strain of *Bacterium pullorum* is grown on nutrient agar (pH 7.5) for 48 to 72 hours, washed off with a very small amount of a 12 percent solution of sodium chloride containing 0.5 percent of phenol, filtered through glass wool to remove clumps of bacteria and of media and adjusted so that its turbidity is 50 times greater than tube 0.75 of McFarland's nephelometer.

Setting up tests, rapid method.—The tests are run on glass, ruled off in inch squares. The glass forms the top of a box in which is a frosted electric-light bulb that furnishes light and heat. The interior of the box is painted black. Two serum-antigen dilutions are used for each sample. The amount of antigen in each case is 0.02 cc. This amount of the concentrated antigen is equivalent to 1 cc. of the antigen diluted to correspond to tube 0.75 of McFarland's nephelometer. Since this is the amount and turbidity of the antigen employed in the slow method, the two tests are placed on the same basis as regards antigen. The serum used is in 0.02-cc. and 0.01-cc. amounts. Therefore the serum-antigen dilutions are equivalent to 1–50 and 1–100 in the slow method. The serum and antigen are placed a short distance apart in the squares and are mixed thoroughly with a toothpick. With positive sera agglutination usually takes place immediately. Occasionally a serum-antigen mixture is found that requires nearly 5 minutes for complete flocculation to occur. When this kind occurs the reaction can be hastened by agitation with a toothpick.

MEMORANDUM OF UNDERSTANDING FORM

Memorandum of Understanding between the Bureau of Animal Industry of the U. S. Department of Agriculture and the _____
(Name of official State agency)
covering the cooperative work of the National Poultry Improvement Plan and/or the National Turkey Improvement Plan.

A. The Bureau of Animal Industry of the U. S. Department of Agriculture agrees:

1. To detail poultrymen to be known as Coordinators in charge of the National Poultry Improvement Plan and National Turkey Improvement Plan.

2. To administer the National Poultry Improvement Plan and the National Turkey Improvement Plan in an efficient and uniform manner among all the States where this work is undertaken.

3. To detail additional help in the administration of the National Poultry Improvement Plan and National Turkey Improvement Plan to the extent of funds available and as circumstances render advisable.

4. To pay the salary of such Bureau coordinators and additional help and such traveling expenses as are incurred under Bureau instructions and authorized by the fiscal regulations of the United States Department of Agriculture.

5. To approve all antigen used in the rapid, whole-blood test for pullorum disease.

6. To permit the use of the prefix "U. S." in connection with other terms in describing, advertising, and selling hatching eggs, chicks, poults, and breeding stock of the various breeding stages and pullorum classes when attained and when satisfied that all the rules and regulations of the National Poultry Improvement Plan and/or the National Turkey Improvement Plan have been complied with.

7. To assemble, analyze, and release information on poultry breeding and pullorum disease control that will be of material benefit to the poultry industry.

8. To advise the representatives and leaders of the industry concerning the breeding and disease control problems with which the poultry industry is confronted.

B. _____ the official State agency, agrees:

1. To arrange for and hold a school or schools annually for the purpose of training those who desire to become proficient and qualified to do flock selecting and pullorum testing work.

2. To arrange for the holding of examinations and to authorize candidates who qualify to do flock selecting, blood collecting, and pullorum testing work.

3. To direct, supervise, and be responsible for all the work done relative to flock selection in the various breeding stages and to testing for pullorum as provided for in the National Poultry Improvement Plan and/or the National Turkey Improvement Plan.

4. To require flock-selecting agents, pullorum-testing agents, blood collectors, official State inspectors, R. O. P. supervisors and inspectors to work in cooperation with representatives of the Federal Bureau.

5. To conduct efficiently the inspection work required in the National Poultry Improvement Plan and/or the National Turkey Improvement Plan.

6. To provide for the keeping of accurate and detailed records of all the poultry improvement work done, and to make such records accessible to representatives of the Bureau of Animal Industry of the U. S. Department of Agriculture.

7. To inspect the advertising of all members of the poultry industry within its jurisdiction who are participating in the National Poultry Improvement Plan and/or the National Turkey Improvement Plan for the purpose of ascertaining whether or not they are complying with its provisions.

8. To report to the Bureau of Animal Industry of the U. S. Department of Agriculture any member or members of the poultry industry who have been discontinued from participation due to unsatisfactory compliance or who persistently fail to comply with all the provisions of the National Poultry Improvement Plan or the National Turkey Improvement Plan.

9. To provide the Bureau of Animal Industry with three copies of the current rules and regulations of the official State agency governing poultry improvement work.

10. To provide the Bureau of Animal Industry of the U. S. Department of Agriculture with three blank copies of each record form used by the official State agency in the work of the National Poultry Improvement Plan and/or the National Turkey Improvement Plan.

11. To formulate and have signed contracts or agreements between the official State agency and all participants except flockowners who are affiliated with participating hatcheries.

C. The Bureau of Animal Industry of the U. S. Department of Agriculture and the _____
(Name of official State agency)

agree:

1. That the work of the National Poultry Improvement Plan and/or the National Turkey Improvement Plan shall be cooperative.

2. That representatives of the Bureau of Animal Industry of the U. S. Department of Agriculture may confer with representatives of the official State agency from time to time for the purpose of improving methods in the work, but any deviation or departure from the established practice of the Federal Bureau must receive the approval of the Chief of the Bureau of Animal Industry of the U. S. Department of Agriculture before being adopted.

No member of or delegate to Congress or resident Commissioner shall be admitted to any share or part of this understanding or to any benefit to arise therefrom.

This Memorandum of Understanding shall become effective _____ and shall continue indefinitely but may be modified or discontinued at the request of either party. Requests for termination or any major change shall be submitted to the other party for consideration not less than 90 days in advance of the effective date desired.

In witness whereof the parties hereto have set their hands and seals:

_____ (Date)	_____
_____ (Date)	_____
_____ (Date)	_____
_____ (Date)	_____ *Chief, Bureau of Animal Industry, U. S. Department of Agriculture.*
_____ (Date)	_____ *Administrator, Agricultural Research Administration, U. S. Department of Agriculture.*

PROCEDURE FOR MAKING CHANGES IN THE PLAN

The following rules and procedure for making changes in the plan were originally adopted by official delegates at the National Plans Conference held in Cleveland, Ohio, July 18 and 19, 1947 and slightly amended at the conference held in St. Louis, Mo., June 26–29, 1948.

1. Submitting, Compiling, and Distributing Proposed Changes

(*a*) Changes in the provisions of the plan may be proposed by any participant, administrative official of the plan, official State agency, industry organization, or the Bureau of Animal Industry.

(*b*) Proposed changes shall be submitted in writing through the proponent's official State agency, to reach the Bureau of Animal Industry not later than 90 days prior to the opening date of the conference.

(*c*) The name of the proponent shall be indicated on each proposed change when submitted, the proponent in all cases being either an individual or an organization. It is suggested that each proposal shall be accompanied by a brief supporting statement.

(*d*) The Bureau of Animal Industry will notify all persons on the National Poultry Improvement Plan and National Turkey Improvement Plan mailing lists concerning the dates and general procedure of the conference. Hatchery and dealer participants and R. O. P. breeders will be reminded of their privilege to submit proposed changes and to request copies of all the published proposed changes.

(*e*) The proposed changes, together with the names of the proponents and supporting statements, will be compiled by the Bureau of Animal Industry and issued in processed form. When two or more similar changes are submitted, the Bureau will endeavor to unify them into one proposal acceptable to each proponent. Copies will be distributed to State officials of the National Poultry Improvement Plan and the National Turkey Improvement Plan and U. S. R. O. P.

breeders. Additional copies will be made available for meeting individual requests.

2. Official Delegates

Each State cooperating in the National Poultry Improvement Plan (N. P. I. P.) shall be entitled to one N. P. I. P. official delegate, and likewise, each State cooperating in the National Turkey Improvement Plan (N. T. I. P.) shall be entitled to one N. T. I. P. official delegate. The official delegates shall be elected by a representative group of participating industry members and be certified by the official State agency. It is further suggested that the recommendations of the industry with respect to each proposed change be obtained and made available to the official delegates prior to the confrence.

3. Conducting the Conference

(*a*) *Presiding officer.*—The chairman of the conference as a whole shall be a representative of the Bureau of Animal Industry, U. S. Department of Agriculture.

(*b*) *Committees.*—A General Conference Committee of seven persons shall be selected at the opening session, consisting of the Senior Poultry Coordinator, and one member each from the following regions:

North Atlantic: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.

South Atlantic: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida.

East North Central: Ohio, Indiana, Illinois, Michigan, and Wisconsin.

West North Central: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

Western: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, and California.

South Central: Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

The committee members will be elected by the official delegates of the respective regions. This committee shall serve until the next National Plans Conference.

The following six committees shall be established to give preliminary consideration to the proposed changes, falling in their respective fields: (1) N. P. I. P. General Provisions, (2) N. P. I. P. Breeding, (3) N. P. I. P. Pullorum-Disease Control, (4) N. T. I. P. General Provisions, (5) N. T. I. P. Breeding, (6) N. T. I. P. Pullorum-Disease Control.

Each official delegate shall be appointed a voting member in one of the above six committees.

Since several of the proposals may be interrelated, the committees shall consider them as they may relate to others, and feel free to discuss related proposals with other committees.

The committees shall make recommendations to the conference as a whole concerning each proposal. The committee report shall show any change in wording, record the vote on each proposal, and suggest an effective date for each proposal recommended for adoption. The individual committee reports shall be submitted to the Secretary of the Conference, who will combine them into one report showing, in numerical sequence, the committee recommendations on each proposal.

The committee meetings, as well as the general sessions of the conference, shall be open to any interested person. Advocates for or against any proposal should feel free to appear before the particular committee and present their views.

(*c*) *Conference consideration of proposed changes.*—At the time designated for voting on proposed changes by the official delegates, the chairman of the General Conference Committee and the six committee chairmen shall sit at the speaker's table and assist the presiding officer. The proposed changes shall be considered in numerical sequence. Each committee chairman shall present the proposals which his committee approves or recommends for adoption as follows:

"Mr. Chairman. The committee on N. P. I. P. General Provisions recommends the adoption of Proposal No. —, for the following reasons: I move the adoption of Proposal No. —." A second will then be called for. If the recommendation is seconded, discussion and a formal vote will follow. Proposals which the committee does not approve will be presented in the following manner:

"Mr. Chairman. The committee on N. P. I. P. General Provisions does not approve Proposal No. —." The chairman will then ask if any official delegate wishes to move for the adoption of the particular proposal. If moved and seconded, the proposal is subject for discussion and vote. If there is no motion for approval, or if moved, but not seconded, there can be no discussion or vote and the proposal is thereby rejected.

(*d*) *Discussion of a motion.*—Discussion on any motion must be withheld until the motion has been properly seconded, except that the delegate making the motion is privileged, if he desires, to give reasons for his motion at the time of making it. To gain the floor for a motion or for discussion on a motion, the official delegate in the case of a motion, or anyone in case of discussion on a motion, shall rise, address the chair, give his name and State, and be recognized by the chair before proceeding further. While it is considered proper to accept motions only from official delegates and to limit voting only to such delegates, it is, however, considered equally proper to accept discussion from anyone interested. To conserve time, discussion should be pointed and limited to the pertinent features of the motion.

(*e*) *New proposals.*—Proposals that have not been published and submitted to the States will only be considered by the conference with the unanimous consent of the General Conference Committee. Any such proposals must be referred to the appropriate committee for consideration before being presented for action by the general conference.

(*f*) *Voting.*—Voting will be by States and each cooperating State will be allowed one vote. Unless otherwise arranged, the N. P. I. P. official delegate or the N. T. I. P. official delegate, as the case may be, will be expected to cast his State's vote.

A roll call of States for a recorded vote will be used when requested by a delegate from the floor or at the discretion of the chairman.

All motions on proposed changes shall be for adoption. This procedure has been found to be less confusing than accepting motions for both adoption and rejection. Aye votes will, therefore, always be for approval of the motion or adoption of the proposal, while nay votes will be for rejection.

(*g*) *Vote necessary for adoption.*—Proposed changes shall be adopted by a majority vote of the official delegates present and voting and shall become effective at the time recommended in the proposal.

ACCEPTANCE OF CONFERENCE RECOMMENDATIONS BY THE BUREAU OF ANIMAL INDUSTRY

Proposals adopted by the official delegates will be recommended to the Chief of the Bureau of Animal Industry, U. S. Department of Agriculture, for incorporation into the provisions of the plans. The Bureau reserves the right to approve or disapprove the recommendations of the conference as an integral part of its sponsorship of the plans.

The coordinators will assume responsibility for revising and editing the National Poultry Improvement Plan and the National Turkey Improvement Plan to include the changes recommended by the conference and approved by the Bureau. The editing will not affect the substance of the proposals agreed upon.

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U. S. GOVERNMENT PRINTING OFFICE: 1948

For sale by the Superintendent of Documents, U. S. Government Printing Office
Washington 25, D. C. - Price 15 cents

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